

ABSTRACT

MAGNETORESISTIVE SENSOR FOR MAGNETIC HEAD HAVING MINIMIZED SPACING BETWEEN HARD BIAS ELEMENTS AND FREE MAGNETIC LAYER

5 A GMR read head for a magnetic head, in which the hard bias layers are
fabricated immediately next to the side edges of the free magnetic layer, and such that the
midplane of the hard bias layer and the midplane of the free magnetic layer are
approximately coplanar. The positioning of the hard bias layer is achieved by depositing
a thick hard bias seed layer, followed by an ion milling step is to remove seed layer
10 sidewall deposits. Thereafter, the hard bias layer is deposited on top of the thick seed
layer. Alternatively, a first portion of the hard bias seed layer is deposited, followed by
an ion milling step to remove sidewall deposits. A thin second portion of the seed layer
is next deposited, and the hard bias layer is then deposited.